

## CLAIMS

1. Use of a substance for synthesising a drug for the treatment of patients who suffer from a pulmonary disease which is directly or indirectly associated to idiopathic pulmonary disease, hypersensitive pneumonia or diffused panbronchitis, wherein said substance is a peptide or a polypeptide containing the following amino acid sequence:
  - 5 Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu (SEQ ID NO. 1).
  - 10 2. Use according to claim 1, wherein said peptide or a polypeptide further containing following amino acid sequence:
    - 15 His-Ser-Asp (SEQ ID NO. 14); Phe-Thr-Asp (SEQ ID NO. 13).
    - 20 3. Use according to claim 1, wherein said peptide or a polypeptide having following amino acid sequence:
$$(A)_n\text{-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-(B)}_m$$
wherein A, B is any natural amino acid, A and B are independent of each other; and n, m replacing values from 0-25; n and m are independent of each other.
  - 25 4. Use according to claim 3, wherein  $(A)_n$  has following sequence if  $n > 2$ :
$$(X)_o\text{-Phe-Thr-Asp-(Y)}_p;$$
wherein X, Y is any natural amino acid, X and Y are independently of each other; and o, p is a replacing value from 0-11, o and p are independent of each other.
  - 30 5. Use according to claim 4, wherein  $(X)_o$  has following sequence if  $o > 2$ :
$$(X')_q\text{-His-Ser-Asp-(X'')}_r,$$
wherein X', X'' is any natural amino acid, X' and X'' are independent of each other; and r, q ist a replacing value from 0-4, r and q are independent of each other.
  - 35 6. Use according to claim 3, wherein the sequence of said peptide or polypeptide belongs to following group:
    - (i) Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu (SEQ ID NO. 4)

- (ii) Phe-Thr-Asp-X<sup>1</sup>-X<sup>2</sup>-X<sup>3</sup>-X<sup>4</sup>-X<sup>5</sup>-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-Asn-Ser-Ile-Leu-Asn (SEQ ID NO. 5);
- (iii) Phe-Thr-Asp-Asn-Tyr-Thr-Arg-Leu-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-Asn-Ser-Ile-Leu-Asn (SEQ ID NO. 6);
- 5 (iv) Phe-Thr-Asp-Ser-Tyr-Ser-Arg-Tyr-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu (SEQ ID NO. 7);
- (v) His-Ser-Asp-X<sup>1</sup>-X<sup>2</sup>-Phe-Thr-Asp-X<sup>3</sup>-X<sup>4</sup>-X<sup>5</sup>-X<sup>6</sup>-X<sup>7</sup>-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu (SEQ ID NO. 9);
- 10 (vi) His-Ser-Asp-Gly-Ile-Phe-Thr-Asp-Ser-Tyr-Ser-Arg-Tyr-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu (SEQ ID NO. 10);
- (vii) His-Ser-Asp-X<sup>1</sup>-X<sup>2</sup>-Phe-Thr-Asp-Asp-X<sup>3</sup>-X<sup>4</sup>-X<sup>5</sup>-X<sup>6</sup>-X<sup>7</sup>-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-X<sup>8</sup>-X<sup>9</sup>-X<sup>10</sup>-X<sup>11</sup>-(X<sup>12</sup>) (SEQ ID NO. 11);
- 15 (viii) His-Ser-Asp-Ala-Val-Phe-Thr-Asp-Asn-Tyr-Thr-Arg-Leu-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-Asn-Ser-Ile-Leu-Asn (VIP, SEQ ID NO. 1);
- (ix) His-Ser-Asp-Gly-Ile-Phe-Thr-Asp-Ser-Tyr-Ser-Arg-Tyr-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-Ala-Ala-Val-Leu (PACAP-38, SEQ ID NO. 2);
- (x) His-Ser-Asp-X<sup>1</sup>-X<sup>2</sup>-Phe-Thr-Asp--X<sup>3</sup>-X<sup>4</sup>-X<sup>5</sup>-X<sup>6</sup>-X<sup>7</sup>-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu X<sup>8</sup>-X<sup>9</sup>-X<sup>10</sup>-X<sup>11</sup>-X<sup>12</sup>- X<sup>13</sup>-X<sup>14</sup>- X<sup>15</sup>- X<sup>16</sup>-X<sup>17</sup>- X<sup>18</sup>- X<sup>19</sup>-X<sup>20</sup>-X<sup>21</sup>- X<sup>22</sup> (SEQ ID NO. 12);
- 20 (xi) His-Ser-Asp-Gly-Ile-Phe-Thr-Asp-Ser-Tyr-Ser-Arg-Tyr-Arg-Lys-Gln-Met-Ala-Val-Lys-Lys-Tyr-Leu-Ala-Ala-Val-Leu-Gly-Lys-Arg-Tyr-Lys-Gln-Arg-Val-Lys-Asn-Lys (PACAP-27, SEQ ID NO. 3);

wherein X<sup>1</sup> - X<sup>22</sup> is any naturally occurring amino acid.

- 25 7. Use according to claims 1 – 6, wherein any said peptide or polypeptide is an analogue or a derivative with the same biological function.
- 30 8. Use according to claim 7, wherein any said peptide or polypeptide is in a stabilised form.
9. Use according to claims 1-8, wherein said disease is idiopathic pulmonary fibrosis.
- 35 10. Use according to claims 1-8, wherein said disease is hypersensitive pneumonia.
11. Use according to claims 1-8, wherein said disease is diffused panbronchiolitis.

12. Use according to claims 1-8, wherein the therapeutically effective peptides are administered as aerosols.